subjecting said first and second semiconductor islands to a thermal oxidization process to form a thermal oxide film on the first and second semiconductor islands wherein said p-type impurity is incorporated into the thermal oxide film formed on said first semiconductor island;

wherein a concentration of said p-type impurity
monotonically decreases from a first portion distant from an
upper surface of the first semiconductor island to a second
portion close to the upper surface in a depthwise direction of
the first semiconductor island.

 (Amended) A method of manufacturing a semiconductor device as claimed in claim 1,

wherein said first semiconductor island constitutes a pchannel semiconductor device;

wherein said second semiconductor island constitutes an nchannel semiconductor device; and

wherein said p-channel semiconductor device and said n-channel semiconductor device are complementarily combined with each other to form a CMOS structure.



6. (Amended) A method of manufacturing a semiconductor device as claimed in claim 1, wherein a thickness of said first semiconductor island is 100 to 1000Å.



7. (Amended) A method of manufacturing a semiconductor device as claimed in claim 2, wherein a thickness of said first semiconductor island is 100 to 1000Å.

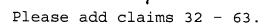


11. (Amended) A method of manufacturing a semiconductor device comprising the steps of:

preparing a semiconductor island comprising crystalline silicon on an insulating surface;

introducing ions of an impurity comprising boron into at least a portion of said semiconductor island without mass separation, wherein said portion is to become a channel region of a thin film transistor; and then

oxidizing a surface of said semiconductor island to form an oxide film so that a part of boron introduced into said semiconductor island is incorporated into said oxide film.



--32. The method according to claim 11 wherein said semiconductor device is an electroluminescent display device.



- 33. The method according to claim 11 wherein said semiconductor device is a video camera.
- 34. The method according to claim 11 wherein said semiconductor device is a personal computer.
- 35. The method according to claim 11 wherein said semiconductor device is a projection system.
- 36. The method according to claim 11 wherein said semiconductor device is a liquid crystal display device.
- 37. The method according to claim 11 further comprising a step of forming a gate electrode over said semiconductor island with said thermal oxide film interposed therebetween as a gate insulating film wherein said gate insulating film contains boron at a concentration of  $1 \times 10^{17}$  to  $1 \times 10^{20} / \text{cm}^3$ .
- 38. The method according to claim 1 further comprising a step of forming a gate electrode over said first semiconductor

island with said thermal oxide film interposed therebetween as a gate insulating film wherein said gate insulating film contains boron at a concentration of  $1 \times 10^{17}$  to  $1 \times 10^{20} / \text{cm}^3$ .

39. A method of manufacturing a semiconductor device, comprising the steps of:

forming first and second semiconductor islands on an insulating surface;

introducing ions of a p-type impurity into at least a portion of said first semiconductor island without mass separation wherein said portion is to become a channel region; and

subjecting said first and second semiconductor islands to a thermal oxidization process to form a thermal oxide film on the first and second semiconductor islands wherein said p-type impurity is incorporated into the thermal oxide film formed on said first semiconductor island,

wherein said first semiconductor island constitutes a pchannel thin film transistor and said second semiconductor island constitutes an n-channel thin film transistor.

40. The method according to claim 39 further comprising a step of forming a gate electrode over said first semiconductor

island with said thermal oxide film interposed therebetween as a gate insulating film wherein said gate insulating film contains boron at a concentration of  $1 \times 10^{17}$  to  $1 \times 10^{20} / \text{cm}^3$ .

- 41. The method according to claim 39 wherein said semiconductor device is an electroluminescent display device.
- 42. The method according to claim 39 wherein said semiconductor device is a video camera.
- 43. The method according to claim 39 wherein said semiconductor device is a personal computer.
- 44. The method according to claim 39 wherein said semiconductor device is a projection system.
- 45. The method according to claim 39 wherein said semiconductor device is a liquid crystal display device.
- 46. The method according to claim 1 wherein said p-type impurity is boron.

- 47. The method according to claim 39 wherein said p-type impurity is boron.
- 48. A method of manufacturing a semiconductor device comprising the steps of:

preparing a semiconductor island comprising crystalline silicon on an insulating surface;

introducing ions of an impurity comprising boron into at least a portion of said semiconductor island by plasma doping without mass separation, wherein said portion is to become a channel region of a thin film transistor; and then

oxidizing a surface of said semiconductor island to form an oxide film so that a part of boron introduced into said semiconductor island is incorporated into said oxide film.

- 49. The method according to claim 48 wherein said semiconductor device is an electroluminescent display device.
- 50. The method according to claim 48 wherein said semiconductor device is a video camera.
- 51. The method according to claim 48 wherein said semiconductor device is a personal computer.

- 52. The method according to claim 48 wherein said semiconductor device is a projection system.
- 53. The method according to claim 48 wherein said semiconductor device is a liquid crystal display device.
- 54. The method according to claim 48 further comprising a step of forming a gate electrode over said semiconductor island with said thermal oxide film interposed therebetween as a gate insulating film wherein said gate insulating film contains boron at a concentration of  $1 \times 10^{17}$  to  $1 \times 10^{20} / \text{cm}^3$ .
- 55. A method of manufacturing a semiconductor device, comprising the steps of:

forming first and second semiconductor islands on an insulating surface;

introducing ions of a p-type impurity into at least a portion of only said first semiconductor island by plasma doping without mass separation wherein said portion is to become a channel region of a thin film transistor; and

subjecting said first and second semiconductor islands to a thermal oxidization process to form a thermal oxide film on

the first and second semiconductor islands wherein said p-type impurity is incorporated into the thermal oxide film formed on said first semiconductor island;

wherein a concentration of said p-type impurity monotonically decreases from a first portion distant from an upper surface of the first semiconductor island to a second portion close to the upper surface in a depthwise direction of the first semiconductor island.

56. A method of manufacturing a semiconductor device as claimed in claim 55,

wherein said first semiconductor island constitutes a pchannel semiconductor device;

wherein said second semiconductor island constitutes an nchannel semiconductor device; and

wherein said p-channel semiconductor device and said n-channel semiconductor device are complementarily combined with each other to form a CMOS structure.

57. A method of manufacturing a semiconductor device as claimed in claim 55, wherein a thickness of said first semiconductor island is 100 to 1000Å.

- 58. The method according to claim 55 wherein said semiconductor device is an electroluminescent display device.
- 59. The method according to claim 55 wherein said semiconductor device is a video camera.
- 60. The method according to claim 55 wherein said semiconductor device is a personal computer.
- 61. The method according to claim 55 wherein said semiconductor device is a projection system.
- 62. The method according to claim 55 wherein said semiconductor device is a liquid crystal display device.

63. The method according to claim 55 further comprising a step of forming a gate electrode over said semiconductor island with said thermal oxide film interposed therebetween as a gate insulating film wherein said gate insulating film contains boron at a concentration of  $1 \times 10^{17}$  to  $1 \times 10^{20} / \text{cm}^3$ .--